

Notes
MRBCA Stakeholder Meeting
Bennett Springs Room, 1730 E. Elm, Jefferson City, MO
Dec. 9, 2015

In attendance

Violet Fisher, BNSF; Joshua Sales, Kennedy/Jenks; Chris Fitzgerald, BNSF; Bob Veenstra, Geosyntec; Kevin Perry, REGFORM; Brian Porter, Terracon; Amanda Sappington and Jason Smith, EWI; Jackie Robb, Wesley Robb, and Liz Miller, Wellington Env.; Keith Piontek, TRC; Laurie Haws, Toxstrategies; Julie Marks, Barr; Steven Sherriff, SRG Global; Phil Harvey, GHD; Elyn Potter, LBG

Participating by phone: Nancy Dickens, TetraTech; Patrick King, ATC; Mike Smith, E2S MDNR: David Lamb, Tim Chibnall, Chris Cady, Tim Eiken, Brian McCurren, Mike Washburn, Scott Huckstep

MDHSS: Michelle Hartman, Dennis Wambuguh

Introduction

- David Lamb gave opening remarks
- Tim Chibnall spoke about the purpose and scope of the MRBCA guidance revision and Risk-Based Target Level (RBTL) update, the purpose and role of the stakeholder group, stakeholder group process, and the topics to be addressed by the stakeholder group.
- Kevin Perry had questions about how rulemaking process has “hamstrung the MRBCA process” (in reference to Chibnall’s characterization of how the need for a rulemaking limits the department’s ability to keep the RBTLs current).
 - Chibnall explained that the department must conduct a rulemaking to update the RBTLs because the Default Target Levels (DTLs), RBTLs, and the methods, equations, and input factors used to develop Site-Specific Target Levels (SSTLs) are incorporated into rule by reference. Rulemakings take as much as 18 months to complete, and this limits the department’s ability to keep the RBTLs current.

Updating the RBTLs

- Kevin Perry – What is the origin of MO’s 1.0E-05 (i.e., 1 in 100,000) vs. EPA’s 1.0E-06 (i.e., 1 in 1,000,000) risk level for carcinogenic chemicals?
 - Michelle Hartman – EPA’s screening levels (Regional Screening Levels or RSLs) for carcinogenic chemicals are calculated to meet a 1.0E-06 risk level, but the risk level for EPA’s cleanup levels under CERCLA may range from 1.0E-04 (i.e., 1 in 10,000) to 1.0E-06.
 - Chris Cady pointed out that Missouri’s 1.0E-05 risk level predates MRBCA and was used in the development of the Any-Use Soil Levels (ASLs) and the target levels in the

Cleanup Action Levels for Missouri (CALM) guidance. He also pointed out that the RBTLs are used for both screening and cleanup.

- Discussion ensued among people who were part of original workgroup (Piontek, Veenstra, Chibnall, Cady) about the origin of the 1.0E-05 risk level.
- Chibnall explained that the proposed RBTLs will not be for three soil types as currently, but only for one (which will be most similar to Soil Type 1); the soil types went away with the 2013 update of Tanks RBCA when stakeholders realized that soil types were unnecessary because site-specific characteristics may be used at Tier 2.
- Hartman said that the Virginia trench model will be used to develop RBTLs for the construction worker inhalation of volatiles pathway; she also said that EPA's reasonable maximum exposure (REM) scenarios will be used to update the RBTLs.
- Nancy Dickens expressed concern that, using EPA's RSL process to update RBTLs would result in RBTLs for metals that are lower than background.
 - Chibnall said those situations will need to be dealt with same as now, by establishing site-specific background levels.
- Chibnall - Does the group want to move to a 1.0E-06 risk level?
 - Group wants to keep the current risk levels.
- Nancy Dickens – What is the rationale for not using soil target levels for VI?
 - Chibnall said that we plan to address that issue at a future meeting.
- Laurie Haws – Cautioned against wholesale adoption of EPA values since some IRIS toxicity data EPA uses is out of date, and recommended considering using newer study data and that the department include in the toxicity criteria hierarchy “or another value approved by the department.”
 - Chibnall said that the use of alternative toxicity data can be addressed under Tier 3, but MDHSS reviews Tier 3 assessments.
 - Michelle Hartman – MDHSS follows EPA's hierarchy and EPA's process is vigorous and takes time; MDHSS uses only the EPA hierarchy because they necessarily have to rely on EPA because they do not have the resources to review all of the new data themselves.
 - Chibnall pointed out that use of only the EPA hierarchy at Tier 3 is not a MRBCA requirement.
 - Haws responded that if you cannot use toxicity or exposure data other than what is in the hierarchy, then MRBCA really doesn't have a Tier 3 process.
- Brian Porter – Questions about fate & transport values; he said the handouts (Tables E-4 and E-5 from MDHSS) show differences in values for certain parameters (fractional organic carbon (FOC), dilution attenuation factor (DAF)). Illinois uses a default of 20 for DAF; he said he believed the 0.006 FOC value is for surface soil and the 0.002 value is for subsurface soil.
 - Hartman – DAF of 1 is the most conservative, but can be adjusted at Tier 2.

- Brian Porter – Will the ASTM fate & transport (Domenico) model for groundwater not be in the revised guidance, even though BVCP doesn't allow its use and instead requires a plume stability evaluation? Porter said he favors being able to use Domenico instead of a plume stability evaluation in some cases.
 - Chibnall – We are not thinking of removing that model from the guidance.
 - Cady said he'd look into the issue with other BVCP project managers and that, in general, he thinks using the model should be allowed when appropriate.
- Phil Harvey – Consider looking at other types of receptors (recreational, commercial, etc.)
 - Chibnall said that we plan to address that issue in a future meeting.

Incorporation of RBTLs into rule by reference

- Chibnall explained that the department is proposing to no longer incorporate the DTLs, RBTLs, and Tier 2 methods, equations and inputs into rule by reference (or otherwise). He explained that this would allow the department to update the RBTLs on a regular basis (likely annually) and, by that, keep the RBTLs current.
- Kevin Perry – Has EPA been briefed on this update of the RBTLs and the guidance revision?
 - Chibnall – No
- Brian Porter – Would removing the incorporation by reference language from the rule allow DNR to update the RBTLs more frequently?
 - Chibnall – Yes, we would propose updating annually.
- Brian Porter – What about sites already undergoing cleanup?
 - Cady – The Brownfield Voluntary Cleanup Program (BVCP) already has a policy on this issue.
- Brian Porter – Should that policy be made a rule?
 - Chibnall – The department would consider that, and it is likely we could build it into the RBCA rule.
 - Chibnall - Does the group have an issue with incorporating that policy into rule or to no longer incorporating the target levels into rule by reference?
 - No one expressed opposition to either proposal.

Interim fix for PCE, TCE, cis-1,2-DCE and VC Target Levels

- Chibnall explained that the department is proposing to update the RBTLs for tetrachloroethylene (PCE), trichloroethylene (TCE), cis-1,2-dichloroethylene (cis-1,2-DCE), and vinyl chloride (VC) by as early as March of 2016 without a rulemaking and as allowed by the RBCA rule 10 CSR 25-18.010.
- Brian Porter asked whether subsurface soil RBTLs would be developed and how Tier 2 evaluations for these chemicals would be handled.
 - Chibnall explained that there would no longer be subsurface soil RBTLs for these four chemicals, and that, because vapor intrusion (VI) would be the likely driver for a

Tier 2 evaluation, EPA's VISL calculator could be used to develop Tier 2 SSTLs.

Hartman added that EPA also has a RSL calculator available on-line, and it could be used for pathways not related to vapor intrusion (i.e., surface soil).

- Chibnall said that the department would give the group time to consider this proposal and to provide input, and that the department will send an email to the group after the meeting discussing (among other things) the proposal and when comments are due. Chibnall explained that because the department would like to get the updated RBTLs for these four chemicals in place fairly soon, the email might include a hard deadline for stakeholder input. No one expressed concern with this.
- Jason Smith asked why bother to include risk-based domestic use of groundwater RBTLs for these four chemicals if the MCL will be retained as the applicable standard?
 - The question moved the group to the following discussion.

Groundwater RBTLs: MCL, WQS or Risk-Based?

- Chibnall explained the issue: What should the applicable target level be when a maximum contaminant level (MCL), Missouri Water Quality Standard (WQS), and a risk-based value all exist for the same chemical?
- Cady asked what accounts for a risk-based value being lower than a MCL. Hartman said that a MCL is based only on ingestion and non-cancer, whereas a risk-based value looks at combined groundwater ingestion/dermal contact/inhalation exposure and both cancer and non-cancer risks (with the lower of the two chosen as the standard).
- Nancy Dickens said that using other than the MCL likely invites litigation against the department.
- Chibnall said MCLs are based not just on toxicity by exposure but also treatability levels, costs to treat, etc.
- Piontek said MCLs are based on a lot of risk management, and that it doesn't make sense to cleanup groundwater that may be used to a level more stringent than what water systems are held to.
- Hartman said RBTL tables will list both the risk-based value and the MCL so that the risk-based value can be used for risk assessment and cumulative risk evaluation, with remediation to the MCL.
- Cady said that if both the risk-based and MCL are published in the tables, it might be hard to explain to the public why cleanup to a less conservative standard is allowed by the department. Kevin Perry said it would be easy to defend use of the MCL as a "federally endorsed drinking water risk management number."
- Cady said that the department had not compared the MCLs and proposed risk-based values to see how many are higher or lower, but that the department will consider a comparison for common chemicals, perhaps including the WQSs in the comparison as well.
- Brian Porter commented that he thinks chemicals should be delineated to the DTLs.

- After discussion, the consensus of the group appeared to be to continue as we have been and use the MCL rather than the risk-based standard.

Soil contamination below the water table:

- Chibnall explained the topic as primarily about how prescriptive the guidance should be, and that his opinion is that being less prescriptive allows for greater flexibility in how specific goals and guidance requirements are met.
- Brian Porter said he prefers the rigid/prescriptive approach of the Illinois TACO process because it allows him to accurately predict the likely outcome of the process and the need for remedial action at his sites. He said Missouri's guidance tends to be vague and not as predictable, making it difficult for him to predict for his clients how a MRBCA evaluation will turn out.

Target Levels for Ecological Receptors

- Chibnall explained that MRBCA does not include specific target levels for ecological receptors, but rather refers to a few sources of such levels. He asked the group whether the guidance should include either a table of target levels for ecological receptors or specific pre-approved references for such levels.
 - Veenstra (and others) pointed out the complexity of ecological risk assessment and the wide variety of standards in the literature that might be applied, and recommended that the department not prescribe specific ecological receptor target levels or sources in the guidance.
 - Amanda Sappington discussed the Missouri WQS and that they need to be met when applicable.
 - Consensus of the group seemed to be to leave the guidance pertaining to ecological risk assessment unchanged.
- Chibnall explained that section 5.4 and Table 5-1 of the 2006 guidance are incorrect in their assertion that the DTLs are protective of ecological receptors. He said that the DTLs are solely based on human health protection. He explained that the department intends to at least correct these errors in the revised guidance. None of the stakeholders voiced any concerns about this proposal.

Wrap-up

- Chibnall said that he would follow-up the meeting with an email to stakeholders discussing any decisions made during the meeting, and how and when stakeholders should provide input regarding the RBTL update and the department's proposal to quickly update the RBTLs for PCE, TCE, cis-1,2-DCE, and VC. He also said that the next meeting would be in February, and the size of the group makes it impractical to inquire about each stakeholder's availability, and therefore the department will simply pick a date for the next meeting.